

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (CURRENTLY AMENDED) An image processing apparatus, comprising:
~~an a single image memory to store a plurality of storing image data read in parallel in a single image;~~
a first image input unit having a first image reader which reads first image data, and writing the first image data into the single image according to a predetermined order, the first image data being an image of one of a front and rear surface of an original document;
a second image input unit
having a second image reader, which reads second image data in parallel with the first image reader, and is positioned spaced from the first image reader by a predetermined distance in a sub-scanning direction, and
writing the second image data into the single image according to the predetermined order, the second image data being an image of the other of the front and rear surface of the original document;
~~an image read unit to read out the plurality of image data from the image memory in block units of a predetermined size~~ reading out the image data written into the single image for each block, and regarding the read image data as the first or second image data as a block row, each block having a predetermined size, a block row being made from a predetermined number of blocks arranged according to a main scanning direction; and
~~an image compression unit to carry~~ carrying out compression processing on the plurality of first and second image data read out by the image read unit,
wherein writing the first and second image data into the single image according to the predetermined order corresponding to the predetermined distance includes writing the first image data read prior to reading the second image data for a number of block rows corresponding to the predetermined distance, by the first image input unit, and then, writing alternately block rows of the first and second image data into the single image, by the first and

second image input unit, and then, writing block rows of the second image data, for the number of block rows corresponding to the predetermined distance, into the single image, by the second image input unit,

~~wherein the image read unit reads out the plurality of first and second image data read in parallel by repeatedly reading a predetermined number of predetermined blocks for each of the plurality of image data and switching the plurality of image data according to a designated order after the reading written into the single image for each block, and regards the read image data as the first or second image data for each block according to predetermined order corresponding to the predetermined distance, and~~

~~wherein the image compression unit carries out the compression processing for each block on the first and second image data read out by the image read unit, and then inserts an identifier for each block after the final block of the predetermined number of blocks in a block row after image compression the predetermined number of blocks for each of the plurality of image data by image compression in block units the plurality of image data read out by the image read unit.~~

2. (CURRENTLY AMENDED) An The image processing apparatus according to claim 1,

~~wherein the image read unit reads starts reading out each of the plurality of first and second image data prior to storing all of the image data for each of the plurality of first and second image data in the single image memory, and~~

~~wherein the image compression unit performs image compression in the block units on the plurality of image data read out from the image read unit.~~

3. (CURRENTLY AMENDED) An The image processing apparatus according to claim 1, wherein the predetermined number of blocks can be changed, and a number of alternating block rows of the first and second image data in the designation of the predetermined order of switching of the plurality of image data can be changed.

4. (CURRENTLY AMENDED) An The image processing apparatus according to claim 1, wherein the image compression is JPEG compression, and the identifier is a restart marker thereof.

5. (CANCELLED).

6. (CURRENTLY AMENDED) An image processing apparatus comprising:
- an image processing control unit ~~to receive~~ receiving an image file storing image-compressed image data which is a compressed data of image data, and an identifier separates the image-compressed image data; and
 - an image expansion unit ~~to expand~~ expanding the image-compressed image data, wherein the image data comprises first and second image data, the first image data being an image of one of a front and rear surface of an original document, being read by a first image reader provided in a first image input unit, and being written into the image file according to a predetermined order, the second image data being an image of the other of the front and rear surface of the original document, being read by a second image reader provided in a second image input unit, in parallel with reading the first image data, and the second image reader being positioned spaced from the first image reader by a predetermined distance in a sub-scanning direction, and the second image data being written into the image file according to the predetermined order
 - wherein writing the first and second image data into the image file according to the predetermined order corresponding to the predetermined distance includes writing the first image data read prior to reading the second image data for a number of block rows corresponding to the predetermined distance, by the first image input unit, and then, writing alternately block rows of the first and second image data into the image file, by the first and second image input unit, and then, writing block rows of the second image data, for the number of block rows corresponding to the predetermined distance, into the image file, by the second image input unit,
 - wherein the image-compressed image data comprises a plurality of image data read in parallel, and each of the plurality of image data includes predetermined numbers of blocks of a predetermined size which are image-compressed in units of the blocks and an identifier inserted after the last block of the predetermined numbers of blocks, and the plurality of image data is arranged so as to switch over between the plurality of image data according to a designated order includes blocks of the first and second image data which are read out from the image file according the predetermined order corresponding to the predetermined distance, and compressed,
 - wherein the identifier is inserted after a final block of a predetermined number of blocks in a block row, all blocks in a block row representing the same one of the first and second image data,

wherein the image processing control unit separates the image-compressed image data ~~each of the plurality of image data~~ according to the identifiers included in the image-compressed image data to regard the separated image-compressed image data as the first and second image data according to the predetermined order corresponding to the predetermined distance, and sends the ~~separated plurality of~~ first and second image data to the image expansion unit, and

wherein the image expansion unit expands each of the separated ~~plurality of~~ first and second image data ~~in units of the blocks for each block.~~

7. (CURRENTLY AMENDED) An image processing method comprising:
storing ~~a plurality of image data read in parallel in a single image;~~
reading first image data by a first image reader provided in a first image input unit and writing the first image data which is an image of one of a front and rear surface of an original document, into the single image according to a predetermined order;
reading second image data in parallel with reading the first image data, by a second image reader provided in a second image input unit and positioned spaced from the first image reader by a predetermined distance in a sub-scanning direction, and writing the second image data which is an image of the other of the front and rear surface of the original document, into the single image according to the predetermined order;
~~reading out the plurality of image data read in parallel by repeatedly reading a predetermined number of predetermined blocks for each of the plurality of image data and switching the plurality of image data according to a designated order after the reading the image data written into the single image in blocks according to the predetermined order to regard the read image data as the first or second image data, each block having a predetermined size, each block row being made from a predetermined number of blocks of the same one of the first and second image data in corresponding to a main scanning direction;~~
carrying out compression processing on the first and second image data read out by the image read unit,
~~inserting an identifier after the a final block of the predetermined number of blocks after image compression the predetermined number of blocks for each of the plurality of image data by image compression in block units the plurality of image data read out a block row;~~
receiving an image file storing the image-compressed image data;
separating the image-compressed image data ~~each of the plurality of~~ to the first and second image data according to the identifiers included in the image-compressed image data;

and

expanding each of the separated plurality of first and second image data in units of the blocks for each block,

wherein writing the first and second image data into the single image according to the predetermined order corresponding to the predetermined distance includes writing the first image data read prior to reading the second image data for a number of block rows corresponding to the predetermined distance by the first image input unit, and then, writing block rows of the first and second image data alternately into the single image by the first and second image input unit, and then, writing the second image data, for the number of block rows corresponding to the predetermined distance, into the single image, by the second image input unit,

wherein the image read unit reads out the first and second image data for each block, and regards the read image data as the first or second image data for each block row according to the predetermined order corresponding to the predetermined distance, and

wherein the image compression unit carries out the compression processing for each block on the first and second image data read out by the image read unit, and then inserts an identifier after a final block of each block row.